



The UK's independent adviser
on tackling climate change

Finlay Carson MSP
Convenor, Rural Affairs and Islands Committee
c/o Clerk to the Committee

Sent by email

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Climate Change Committee
1 Victoria Street,
Westminster, London,
SW1H 0ET
w theccc.org.uk

Dear Mr Carson,

Thank you for your letter dated 20th March 2023 requesting further information following our evidence session on future agriculture policy in Scotland. The Committee's response is provided enclosed with this letter.

Yours sincerely,

Chris Stark
Chief Executive, Climate Change Committee

Future agriculture policy in Scotland – CCC response to follow up queries

- The CCC's expectations with regard to a strategy from the Scottish Government to adapt agriculture to climate change, and whether this should feature as part of a new agriculture policy:
 - There is an urgent need for Scottish agricultural policy to encourage and enable the sector to swiftly and deeply cut emissions. The revisions to the current agricultural policies provide an excellent avenue to address this. This can be achieved by transitioning to lower-carbon farming, providing appropriate incentives for land-use change, and behaviour change targeted at farmers and food consumers.
 - Reducing emissions is essential to adapting to a changing climate, as mitigation will halt the rapid change of condition to allow enough time to catch up with the new reality. Equally, adapting to climate change can help mitigation, as the land-based measures are often overlapping e.g. planting trees or restoring peat to reduce flooding and sequester carbon.
 - Farmland makes up 73% of the land area of Scotland but there is no credible plan to adapt farmland habitats and species to a changing climate; rates of peatland restoration are falling well short of Government targets; River Basin Management plans do not include consideration of future climate change.
 - A structured approach to incorporating the potential impacts from a changing climate into long-term land use planning is essential for land managers to successfully adapt to climate change. The Scottish Government should help increase awareness of the potential climate risks to agricultural production, through owning and supplying the required information, and providing a mechanism for landowners to use it.
 - Clear, time-bound and quantitative targets, with clear Government ownership, need to be set out to make Scotland's adaptation vision drive sufficient action.
 - Scotland lacks effective monitoring and evaluation systems meaning that changes in aspects of many climate-related risks are largely unknown. For adaptation plans to be effective these systems need to be created and implemented without delay.
 - We would welcome a strategy that lays out how the country can encourage climate resilience for agriculture, as this has been missing to date.
 - We would encourage the new agricultural policy include detailed plans and actions for how the agricultural sector can adapt to climate change, including funding and other measures to encourage farmers, crofters and land managers to take up more resilient practices and technologies.
- The CCC's key priorities to be addressed by the Scottish Government's upcoming Agriculture Bill, expected later in 2023:

- The key priorities that the CCC would like to see are achieving the emissions pathways for agriculture and ensuring the sector remains resilient in the face of climate change.
- To help reach Net Zero, incentives are needed to restore 40,000 ha of degraded peat annually and to plant 18,000 ha of trees per year. Support should be made available to encourage low-carbon farming methods, such as sustainable stocking rates, methane inhibitors, low-carbon breeds, improved productivity, better manure and slurry management, and improved animal welfare. Sufficient resources are needed to train and support land managers in this sustainable management transition, and there is a need to encourage uptake of green jobs to reach peatland and forestry targets. These measures must be coupled with policies to encourage food consumer transitions to healthier, more sustainable diets that include less red meat and more plants.
- To help Scotland adapt to climate change, the Agriculture Bill must encourage measures that build climate resilience, such as nature-based solutions to flooding, drought, heat stress and unpredictable precipitation. A climate adaptation plan for agriculture could help frame these approaches, setting out measures needed for different degrees of warming. Data collection and ongoing monitoring are needed to track progress towards being climate resilient.
- There appears to be tension throughout the proposals with regards to, on the one hand, keeping farmers/crofters in business, whilst, on the other hand, trying to encourage them to be more climate friendly. There is danger that this might maintain the status quo and not be sufficient for Scotland to achieve Net Zero targets if it does not shift some land management away from carbon-intensive livestock farming.
- Sufficient clarity, detail and funding to ensure land managers, crofters and farmers can transition to low-carbon, climate-resilient forms of land use. In particular, sufficient incentives and help to restore degraded peat, appropriate planting of trees at scale, use nature-based solutions to mitigate and adapt to climate change, skills and knowledge exchange for low-carbon farming approaches, and support for livestock farmers who want to exit the profession.
- Clear targets and indicators to measure progress in the agricultural sector towards adapting to climate change.
- A framework to monitor progress and impact of the policies and adaptive management measures to alter the policies over time to improve performance.
- The recent release of the Agriculture Reform Route Map is welcomed, providing key dates relating to the Support Package up to 2032, and links to other areas of developing policy for land use, biodiversity and climate. Greater detail is required to assess the impact this could have of on emissions reduction and contribution towards the Scottish Government's abatement trajectory in its Climate Change Plan.

- Detail on how the Agriculture Bill and support package will embed climate adaptation and resilience in Scotland's agriculture sector is undefined, and absent from the detail regarding the Support Package framework for farmers. The CCC has recommended that Scotland's Agriculture sector needs a coherent strategy to ensure it remains productive and resilient to future climate change.
- Agricultural land in Scotland needs to deliver a wide range of benefits beyond food production. The proposals on nature protection and restoration could work to support climate mitigation and adaptation depending on context. More detail on actions, funding levels and targeting is needed before this can be assessed.
- Incentives for agricultural land use have not seen fundamental change for decades. We must take advantage of leaving CAP and design policies that can address the financial and non-financial barriers to drive the transition. These include:
 - Develop a private sector funding mechanism to deliver afforestation (e.g. carbon trading scheme); and public funding to encourage the non-carbon benefits of afforestation.
 - Public funding for peatland restoration, agroforestry, and the take-up of low-carbon farming practices that go beyond the regulatory baseline.
 - Enabling policies: e.g. addressing skills shortages in forestry and peatland restoration; increasing tree nursery capacity, upskilling farmers and crofters to grow and manage energy crops, and resolving tenancy constraints to facilitate tree planting and other forms of land use change.
- Whether the CCC has considered the implications for biodiversity from its pathway for agriculture, and how any negative implications could be mitigated:
 - The agriculture and land pathways as set out for the 6th Carbon Budget recognise strategic priorities for land alongside climate mitigation measures, including food production, housing and economic and social uses, a range of environmental services and biodiversity. Most of the measures for emissions abatement have positive synergies, and areas of potential risks are highlighted.
 - Further integration of nature into our mitigation work is nascent and an area that we are developing. For example, we recently commissioned work looking at the representation of agroecological principles within the CCC 6th Carbon Budget pathways for land and agriculture. We are developing a work programme for the 7th Carbon Budget that includes assessing how biodiversity will be affected by our land and agricultural pathways.
- The CCC's key points and modelling assumptions on ensuring that emissions from food production are not offshored, and the policies and policy levers in place to prevent such offshoring:
 - The dietary reduction in the CCC scenarios assumes demand for these products is not offshored, with a corresponding fall in

imports/exports of meat, dairy and animal feed factored in, which reduces the carbon footprint of the UK's food imports.

- The CCC model assumes that farmers and crofters do not respond to the change in diets by increasing meat and dairy exports, and that a fall in domestic livestock production does not mean an increase in meat/dairy imports from other countries. Instead, they diversify their income.
 - Our model also assumes that a fall in livestock production in the UK does not result in increased meat/dairy imports from other countries.
 - We recognise that there is high uncertainty in achieving this. A strong policy framework is needed that supports a shift in diets (with co-benefits for health and reduced healthcare costs), incentives for farmers and crofters to improve productivity delivering higher yields on less land, and farmers/crofters receive adequate support for land use change measures that promote carbon sequestration.
 - Delivering emissions reduction in Scotland and across the rest of UK should not be at the expense of increasing food and commodity imports that risk carbon leakage, environmental offshoring, and higher consumption emissions or damaging other environmental objectives. The use of minimum environmental standards in trade deals should be considered.
- Any additional information on this subject not explored in the evidence session and about which you would like to inform the Committee.
 - Farming accounts for almost 20% of Scotland's emissions. While other sectors have a clear path to decarbonising, by 2045 agriculture will be the biggest single emitting sector. All sectors need to contribute to emissions reduction in Scotland, including agriculture.
 - Increased uptake of low-carbon farming practices and technologies will contribute to non-CO2 emissions from agricultural soils, livestock and animal waste. We need to reduce waste on the farm. We also need to switch from fossil fuel use in agricultural machinery (both for housing and vehicles) to low-carbon alternatives.
 - Carbon sequestration represents an important opportunity to diversify farm income streams, particularly in Scotland that has significant potential to restore its natural capital. Current codes exist in the form of the Woodland Carbon Code and the Peatland Code, with other relevant approaches being developed.
 - By 2045, about 30% of agricultural land (predominately grassland) needs to be converted to plant more biomass (trees, hedges and energy crops) and to restore degraded peat.
 - To free up land:
 - Sustainable intensification of Scottish lowland farming and associated improvements in productivity. Increased stocking densities (e.g. grazing cattle) when accompanied by good grazing management systems (to increase grass yields) can release

grassland out of agriculture as long as livestock numbers do not increase overall.

- But – very clearly - livestock numbers must decline if emissions are to fall. In our modelling that happens through diet change (coupled with changes to imports/exports), dairy cattle, beef and sheep numbers fall by 29%, 26% and 26% respectively by 2045.
- Crop yield improvements can deliver productivity improvements on farm, enabling the same level of production with less land and other inputs. This will allow the release of cropland out of agriculture only if demand and exports don't grow.
- Key Climate Change Committee publications:
 - Scottish Emission Targets & Progress in reducing emissions in Scotland – 2022 Report to Parliament
 - Is Scotland climate ready? - 2022 Report to Scottish Parliament
 - Agroecology – a Rapid Evidence Review (University of Aberdeen, commissioned by the Climate Change Committee)
 - CCC Monitoring Framework